

CLAIMS

1. A communication device comprising:
 - a housing comprising:
 - at least one metallic portion, and
 - 5 at least one non-metallic portion; and
 - an antenna system for tuning the communication device to radiate at one or more frequencies, wherein the antenna system is located within the non-metallic portion of the housing.
- 10 2. A communication device as recited in claim 1 wherein the antenna system comprises:
 - a first resonator, and
 - one or more antenna elements;
 - wherein the antenna system is electromagnetically coupled to the at least one
 - 15 metallic portion, and further wherein the at least one metallic portion is a second resonator for the antenna system.
- 20 3. A communication device as recited in claim 2 wherein the antenna system comprises a plurality of antennas, wherein each of the plurality of antennas provides operation on at least one frequency band.
4. A communication device as recited in claim 2 wherein the antenna system comprises a plurality of antennas, wherein each of the plurality of antennas provides operation using at least one communication protocol.

5. A communication device as recited in claim 2 wherein the antenna system comprises a plurality of antennas, and further wherein the plurality of antennas is contained within a dielectric over-mold.
- 5 6. A communication device as recited in claim 5 wherein each of the plurality of antennas has an independent frequency output.
7. A communication device as recited in claim 2 wherein the antenna system comprises a plurality of antennas, and further wherein the performance of the antenna
10 system is controlled using one or more attributes chosen from the group of attributes consisting of distance, placement, technology, and number of elements used in the antenna system.
8. A communication device as recited in claim 2 further comprising a keypad,
15 wherein the antenna system is tilted towards the keypad.

9. A communication device comprising:
a housing comprising:
a first housing portion comprising:
5 at least one first housing metallic portion, and
at least one first housing non-metallic portion;
a second housing portion rotatably coupled to the first housing, the
second housing comprising:
at least one second housing metallic portion, and
10 at least one second housing non-metallic portion; and
an antenna system for tuning the communication device to radiate at one or
more frequencies, wherein the antenna system is located within the at least one first
housing non-metallic portion of the housing.
- 15 10. A communication device as recited in claim 9 wherein the antenna system is
further located within the at least one second housing non-metallic portion.
11. A communication device as recited in claim 10 wherein the antenna system
comprises:
20 a first resonator, and
one or more antenna elements;
wherein the antenna system is electromagnetically coupled to the at least one
first housing metallic portion, and further wherein the at least one first housing
metallic portion is a second resonator for the antenna system.

12. A communication device as recited in claim 11 wherein the antenna system is further electromagnetically coupled to the at least one second housing metallic portion, and further wherein the at least one second housing metallic portion is a third
5 resonator for the antenna system.

13. A communication device as recited in claim 9 wherein the antenna system comprises a plurality of antennas, wherein each of the plurality of antennas provides operation on at least one frequency band.
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14. A communication device as recited in claim 9 wherein the antenna system comprises a plurality of antennas, wherein each of the plurality of antennas provides operation using at least one communication protocol.

15. A communication device as recited in claim 9 wherein the antenna system comprises a plurality of antennas, and further wherein the plurality of antennas is contained within a dielectric over-mold.
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16. A communication device as recited in claim 15 wherein each of the plurality of
20 antennas has an independent frequency output.

17. A communication device as recited in claim 9 wherein the antenna system comprises a plurality of antennas, and further wherein the performance of the antenna system is controlled using one or more attributes chosen from the group of attributes

consisting of distance, placement, technology, and number of elements used in the antenna system.

18. A communication device as recited in claim 9 further comprising a keypad,
5 wherein the antenna system is tilted towards the keypad.